

COVID-19 and the Heart: How Much We Still Have to Learn!

COVID-19 y el corazón: ¡Cuánto nos queda aún por aprender!

FEDERICO M. ASCH^{MD, FASE, FACC}

Three years after the start of the pandemic, it is prudent to say that we have learned a lot about the cardiovascular complications caused by COVID-19, (1–3) and that much remains to be learned. By the end of 2022, the number of cases has decreased significantly and, even more important, its severity is notably less than what we suffered in the previous two years. As we close out a year of epidemiological successes, it's good to reflect on how recent learnings lead us to a healthier future. In most countries, the pandemic has come to be considered "over", an idea that generates debate. Certainly, vaccination campaigns and epidemiological care have changed the course of this disease at the individual and population level, so that we can affirm that 2020 COVID is different from the current one. In this context, one wonders: why are we still worried about a disease of the past? Is it useful for us to learn from an almost extinct disease?

Well, despite believing that the pandemic is under control, in December 2022 we find outbreaks of COVID-19 in Argentina, China, and many other regions of the world. The strains that affect each region, the efficacy of the different vaccines used, or adherence to preventive measures will almost certainly continue to vary, and therefore cases of COVID-19 will continue to exist in the short and medium term.

It is also important to recognize that the pandemic has turned the world into a giant Petri dish, with the opportunity to investigate an infectious phenomenon in record times. In just a few months the number of cases has been enormous and the need to rapidly investigate this disease was addressed globally with great responsibility and enthusiasm. (4, 5) We have learned a lot, for example, about the systemic inflammatory effects of a primarily respiratory infection. It is obvious today to contemplate and accept the diversity and complexity of clinical cases, as well as the clinical and pathophysiological similarities that SARS-Cov-2 it has with the influenza virus or other viruses responsible for more classic cases of myocarditis or pericarditis. (6)

Multiple reports from different corners of the world have described the value of cardiovascular imaging to characterize, in patients with COVID-19, left and right ventricular involvement, the added utility of longitudinal strain on ejection fraction, (7) the predictive capacity of the use of highly reproducible methodologies with artificial intelligence, (8) etc.

Understanding how this pandemic affects the population in different countries is of the utmost importance. (2) In addition to the diversity in viral strains and vaccines, regional variations are marked by notable differences in health systems that include methods of prevention, evaluation, and treatment. In this issue of the Argentine Journal of Cardiology, two important reports of prospective observational studies help to understand the cardiovascular effects of COVID-19, but also to specifically describe the use of cardiac imaging methods in Argentina.

Espinosa et al. describe a series of consecutive patients referred for cardiac magnetic resonance imaging (CMR) after testing positive for COVID in swabs. (9) At the time of diagnosis, 17% of the patients were symptomatic, and only 5% required hospitalization; the rest were asymptomatic, at a median of 68 days after diagnosis. In this selected population (all had been referred for CMR), the incidence of findings consistent with myocarditis or myocardial fibrosis was very low (3.3%), and all patients had a 6-month follow-up free of significant cardiovascular events. These findings suggest that the indication for CMR as post-COVID follow-up should be limited to cases with a high pre-test probability of myocardial disease.

The study by Parodi et al. (10) has certain similarities with that of Espinoza. Patients were referred for echocardiography after COVID-19 diagnosis (not at the acute moment of infection) and the incidence of findings consistent with myocardial injury was equally low (3.9%). In this case, factors related to a greater risk of myocardial damage were identified: more serious clinical cases at diagnosis, and cases diagnosed previously to the beginning of the vaccination campaigns.

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Address for reprints: Email: federico.asch@medstar.net. Twitter: @FedericoAsch

Professor, Georgetown University. Director, Cardiovascular Core Labs and Cardiovascular Imaging Research. MedStar Health Research Institute Washington, D.C., USA

Apart from certain differences in the two studies, I consider it prudent to conclude that current post-COVID patient care practices in Argentina should be adapted to the new reality: a close history of COVID should not be enough to indicate cardiovascular imaging studies. They should be restricted to those patients with symptoms suggestive of cardiac disease or, perhaps, those with a history of cardiovascular disease (although this kind of patients has not been included in these reports).

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